

This listing of claims will replace all prior versions, and listings, of claims in the application:

Amendments to the Claims:

Claim 1 (currently amended): A ~~S~~sensor arrangement for measuring anesthesia parameters from the head of a patient, the sensor arrangement comprising:

a base element adapted for attachment to the head of patient;

at least one connector attached to the base element and adapted to connect the

5 sensor arrangement to a patient monitor; and

an array of electrodes and an optical sensor, wherein the array of electrodes and optical sensor are adapted to monitor substances in tissues and are connected to the at least one connector~~for monitoring substances in tissues, in which sensor arrangement all electrodes and sensors are connected to a single connector or a series of connectors attached to the base element for connecting the sensor arrangement to a patient monitor.~~

Claim 2 (currently amended): The arrangement of claim 1 wherein a first and a second electrode of the array of electrodes are NMT stimulus electrodes adapted for location~~located~~ just posterior to the lower part of the pinna and just anterior to the tragus to stimulate the facial nerve when the base element is attached to the head of the patient.

Claim 3 (currently amended): The arrangement of claim 1 ~~or 2~~ wherein three of the electrodes ~~in~~ of the array of electrodes are adapted~~used~~ to measure EEG and EMG, a first of the three electrodes adapted for location~~being located~~ on the temple area between the corner of the eye and the hairline when the base element is attached to the head of the
5 patient, a second electrode of the three electrodes adapted for location~~being located~~ above the eye at the same level as a third electrode of the three electrodes which is adapted for location~~located~~ between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose when the base element is attached to the head of the patient, and

10 wherein a fourth electrode of the array of electrodes is adapted for location~~located~~ below the eye for enhancing the EEG and EMG measurement when the base element is attached to the head of the patient.

Claim 4 (currently amended): The arrangement of claim 3 wherein the first, second, third and fourth electrodes are adapted~~used~~ to measure NMT response.

5 Claim 5 (currently amended): The arrangement of claim 1 ~~or 2~~ wherein three ~~of the~~ electrodes ~~in~~of the array of electrodes are adapted~~used~~ to measure EEG and EMG, a first electrode of the three electrodes adapted for location~~being located~~ on location F2 or F4 of the International 10-20 system when the base element is attached to the head of the
patient, a second electrode of the three electrodes adapted for location~~being located~~ between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose when the base element is attached to the head of the patient, and a fourth electrode of the array of electrodes is adapted for location~~located~~ below the eye for enhancing the EEG and EMG measurement when the base element is attached to the head of the patient.

Claim 6 (currently amended): The arrangement of claim 5 ~~comprising~~wherein there is an additional electrode adapted for location~~located~~ on the temple area between the corner of the eye of the patient when the base element is attached to the head of the patient, wherein~~and~~ the additional electrode and the second electrode and at~~the~~ third electrodes of the three electrodes are able~~used~~ to measure NMT response.

Claim 7 (currently amended): The arrangement of claim 1, wherein the optical sensor for monitoring substances in tissues is adapted for location ~~on~~attached to the forehead of the patient when the base element is attached to the head of the patient.

Claim 8 (currently amended): The arrangement of claim 1, wherein the optical sensor for monitoring substances in tissues is adapted for location on~~attached to~~ the root of the nose of the patient when the base element is attached to the head of the patient.

Claim 9 (currently amended): The arrangement of claim 1, wherein the optical sensor for monitoring substances in tissues is adapted for location on~~attached to~~ the ear of the patient when the base element is attached to the head of the patient.

Claim 10 (original): The arrangement of claim 1 wherein the optical sensor for monitoring substances in tissues is a SpO2 sensor.

Claim 11 (currently amended): A ~~S~~sensor arrangement for measuring anesthesia parameters from the head of a patient, the sensor arrangement comprising:

a base element adapted for attachment to the head of a patient;

~~and~~ an array of electrodes for monitoring substances in tissues;

~~and~~ an optical sensor for monitoring substances in tissues;

~~and~~ a mechanical NMT sensor;

wherein the array of electrodes, optical sensor, and NMT sensor are connected to at least one connector that is attached to the base element, the at least one connector adapted to connect in which sensor arrangement all electrodes and sensors are connected to a single connector or a series of connectors attached to the base element for connecting the sensor arrangement to a patient monitor.

Claim 12 (currently amended): The arrangement of claim 11 wherein a first and a second electrode of the array of electrodes are NMT stimulus electrodes adapted for location~~located~~ just posterior to the lower part of the pinna and just anterior to the tragus to stimulate the facial nerve when the base element is attached to the head of the patient.

Claim 13 (currently amended): The arrangement of claim 11 ~~or 12~~ wherein three ~~of the~~ electrodes ~~in~~ the array of electrodes are ~~adapted~~used to measure EEG and EMG, a first of the three electrodes ~~adapted for location~~being located on the temple area between the corner of the eye and the hairline when the base element is attached to the head of the
5 patient, a second electrode of the three electrodes ~~adapted for location~~being located above the eye at the same level as a third electrode of the three electrodes which is ~~adapted for location~~located between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose when the base element is attached to the head of the patient, and wherein a fourth electrode of the array of electrodes is adapted for location~~located~~
10 the eye for enhancing the EEG and EMG measurement when the base element is attached to the head of the patient.

Claim 14 (currently amended): The arrangement of claim 13 wherein the mechanical NMT sensor is a piezoelectric sensor ~~adapted for location~~located over either the procerus, frontalis, corrugator or orbicularis muscle or a combination of these to record the response to the NMT stimulus when the base element is attached to the head of the patient.

Claim 15 (currently amended): The arrangement of claim 11 ~~or 12~~ wherein three ~~of the~~ electrodes ~~in~~ the array ~~of electrodes~~ are ~~adapted~~used to measure EEG and EMG, a first ~~electrode~~ of the three electrodes ~~adapted for location~~being located on location F2 or F4 of the International 10-20 system when the base element is attached to the head of the
5 patient, a second electrode of the three electrodes ~~adapted for location~~being located between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose when the base element is attached to the head of the patient, and a fourth electrode of the array of electrodes is located below the eye for enhancing the EEG and EMG measurement when the base element is attached to the head of the patient.

Claim 16 (currently amended): The arrangement of claim 15 wherein the mechanical NMT sensor is a mechanical piezoelectric sensor adapted for location~~located~~ over either the procerus, frontalis, corrugator or orbicularis muscle or a combination of these to record the response to the NMT stimulus when the base element is attached to the head of the patient.

Claim 17 (currently amended): The arrangement of claim 11, wherein the optical sensor for monitoring substances in tissues is arranged for attachment~~attached~~ to the forehead of the patient when the base element is attached to the head of the patient.

Claim 18 (currently amended): The arrangement of claim 11, wherein the optical sensor for monitoring the substances in tissues is adapted for attachment~~attached~~ to the root of the nose of the patient when the base element is attached to the head of the patient.

Claim 19 (currently amended): The arrangement of claim 11, wherein the optical sensor for monitoring substances in tissues is adapted for attachment~~attached~~ to the ear of the patient when the base element is attached to the head of the patient.

Claim 20 (original): The arrangement of claim 11 wherein the optical sensor for monitoring substances in tissues is a SpO2 sensor.

Claim 21 (currently amended): A Ssensor arrangement for measuring anesthesia parameters from the head of a patient, the sensor arrangement comprising:

a base element adapted for attachment to the head of a patient;

~~and~~ an array of electrodes for measuring EEG, EMG and NMT;

5 wherein the array of electrodes are connected to at least one connector attached to the base element, the at least one connector adapted to connect in which sensor arrangement all electrodes and sensors are connected to a single connector or a series of

~~connectors attached to the base element for connecting~~ the sensor arrangement to a patient monitor.

Claim 22 (currently amended): The arrangement of claim 21 wherein a first and a second electrode of the array of electrodes are NMT stimulus electrodes adapted for location~~located~~ just posterior to the lower part of the pinna and just anterior to the tragus to stimulate the facial nerve when the base element is attached to the head of the patient.

Claim 23 (currently amended): The arrangement of claim 21 ~~or 22~~ wherein three ~~of the~~ electrodes ~~in~~of the array of electrodes are adapted~~used~~ to measure EEG and EMG, a first of the three electrodes adapted for location~~being located~~ on the temple area between the corner of the eye and the hairline when the base element is attached to the head of the patient, a second electrode of the three electrodes adapted for location~~being located~~ above the eye at the same level as a third electrode of the three electrodes which is adapted for location~~located~~ between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose when the base element is attached to the head of the patient, and wherein a fourth electrode of the array of electrodes is adapted for location~~located~~ below the eye for enhancing the EEG and EMG measurement when the base element is attached to the head of the patient.

Claim 24 (currently amended): The arrangement of claim 23 wherein the first, second, third and fourth electrodes are adapted~~used~~ to measure NMT response.

Claim 25 (currently amended): The arrangement of claim 21 ~~and 22~~ wherein three ~~of the~~ electrodes ~~in~~of the array of electrodes are adapted~~used~~ to measure EEG and EMG, a first electrode of the three electrodes adapted for location~~being located~~ on location F2 or F4 of the International 10-20 system when the base element is attached to the head of the patient, a second electrode of the three electrodes adapted for location~~being located~~

between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose when the base element is attached to the head of the patient, and a fourth electrode of the array of electrodes is adapted for location~~located~~ below the eye for enhancing the EEG and EMG measurement when the base element is attached to the head of the patient.

Claim 26 (currently amended): The arrangement of claim 25 wherein there is an additional electrode adapted for location~~located~~ on the temple area between the corner of the eye of the patient when the base element is attached to the head of the patient, and wherein the additional electrode and the second electrode and at the third electrodes of the three electrodes are able~~used~~ to measure NMT response.

Claim 27 (currently amended): A S~~s~~ensor arrangement for measuring anesthesia parameters from the head of a patient, the sensor arrangement comprising:

a base element adapted for attachment to the head of a patient;

~~and~~ an array of electrodes;

5 ~~and~~ a mechanical NMT sensor;

wherein the array of electrodes and NMT sensor are connected to at least one connector that is attached to the base element, the at least one connector arranged to connect~~in which sensor arrangement all electrodes and sensors are connected to a single connector or a series of connectors attached to the base element for connecting the sensor~~
10 arrangement to a patient monitor.

Claim 28 (currently amended): The arrangement of claim 27 wherein a first and a second electrode of the array of electrodes are NMT stimulus electrodes adapted for location~~located~~ just posterior to the lower part of the pinna and just anterior to the tragus to stimulate the facial nerve when the base element is attached to the head of the patient.

Claim 29 (currently amended): The arrangement of claim 27 ~~or 28~~ wherein three ~~of the~~ electrodes ~~in~~ the array of electrodes are ~~adapted~~used to measure EEG and EMG, a first of the three electrodes ~~adapted for location~~being located on the temple area between the corner of the eye and the hairline when the base element is attached to the head of the
5 patient, a second electrode of the three electrodes ~~adapted for location~~being located above the eye at the same level as a third electrode of the three electrodes which is ~~adapted for location~~located between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose when the base element is attached to the head of the patient, and wherein a fourth electrode of the array of electrodes is ~~adapted for location~~located below
10 the eye for enhancing the EEG and EMG measurement when the base element is attached to the head of the patient.

Claim 30 (currently amended): The arrangement of claim 29 wherein the mechanical NMT sensor is a piezoelectric sensor ~~adapted for location~~located over either the procerus, frontalis, corrugator or orbicularis muscle or a combination of these to record the response to the NMT stimulus when the base element is attached to the head of the patient.

Claim 31 (currently amended): The arrangement of claim 27 ~~or 28~~ wherein three ~~of the~~ electrodes ~~in~~ the array of electrodes are ~~adapted~~used to measure EEG and EMG, a first electrode of the three electrodes ~~adapted for location~~being located on location F2 or F4 of the International 10-20 system when the base element is attached to the head of the
5 patient, a second electrode of the three electrodes ~~adapted for location~~being located between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose when the base element is attached to the head of the patient, and a fourth electrode of the array of electrodes is ~~adapted for location~~located below the eye for enhancing the EEG and EMG measurement when the base element is attached to the head of the patient.

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Claim 32 (currently amended): The arrangement of claim 21 wherein the mechanical NMT sensor is a piezoelectric sensor adapted for location~~located~~ over either the procerus, frontalis, corrugator or orbicularis muscle or a combination of these to record the response to the NMT stimulus when the base element is attached to the head of the patient.